

Figure 1

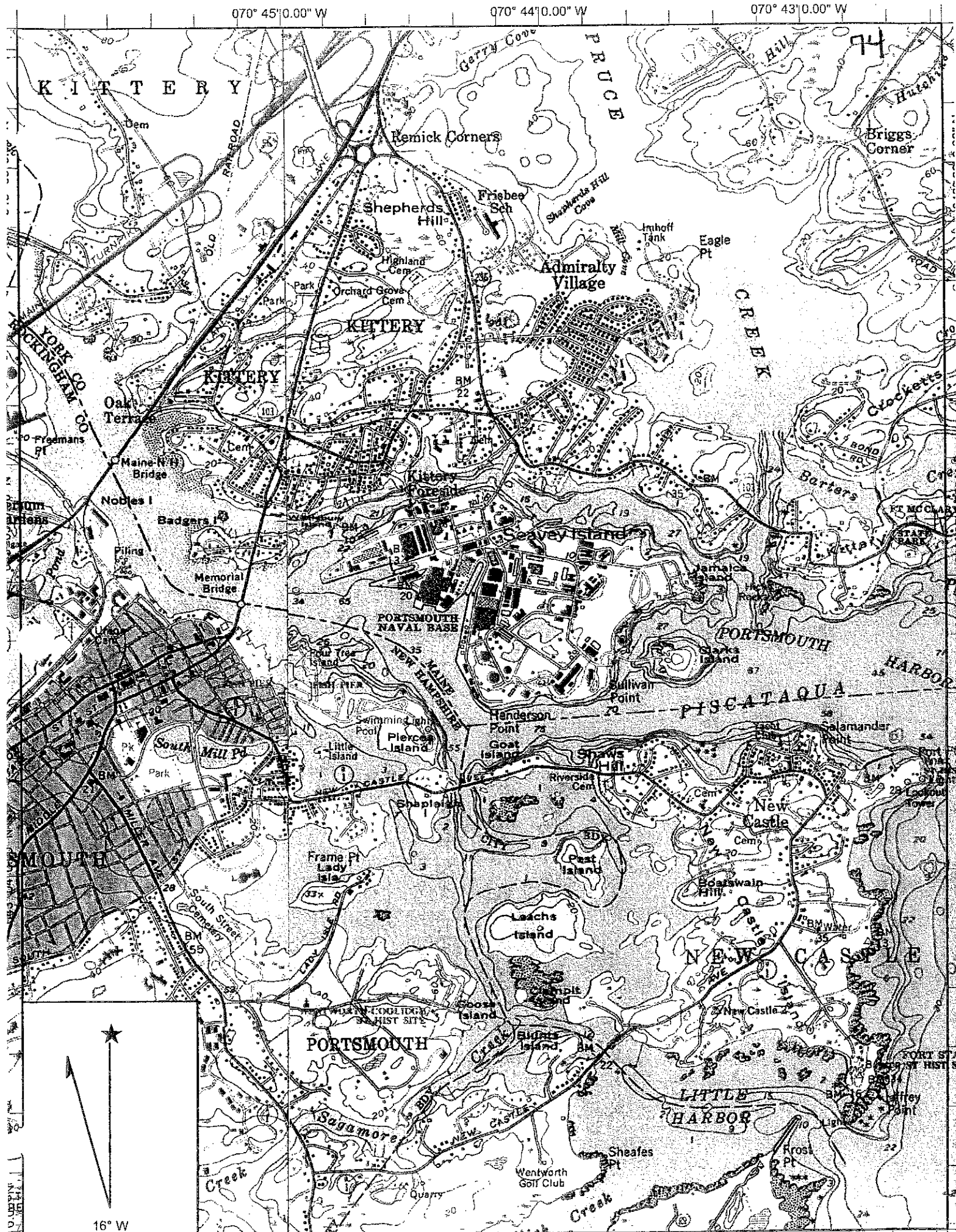


Figure 2

PORTSMOUTH NAVAL SHIPYARD **Bldg 357 and Support Areas** **LICENSED AREA**

This map is to be used for reference purposes only and does not represent authoritative locations of displayed features.
 Map Prepared by John P. Lyman
 Mobile DEP GIS Unit, 8/17/2006

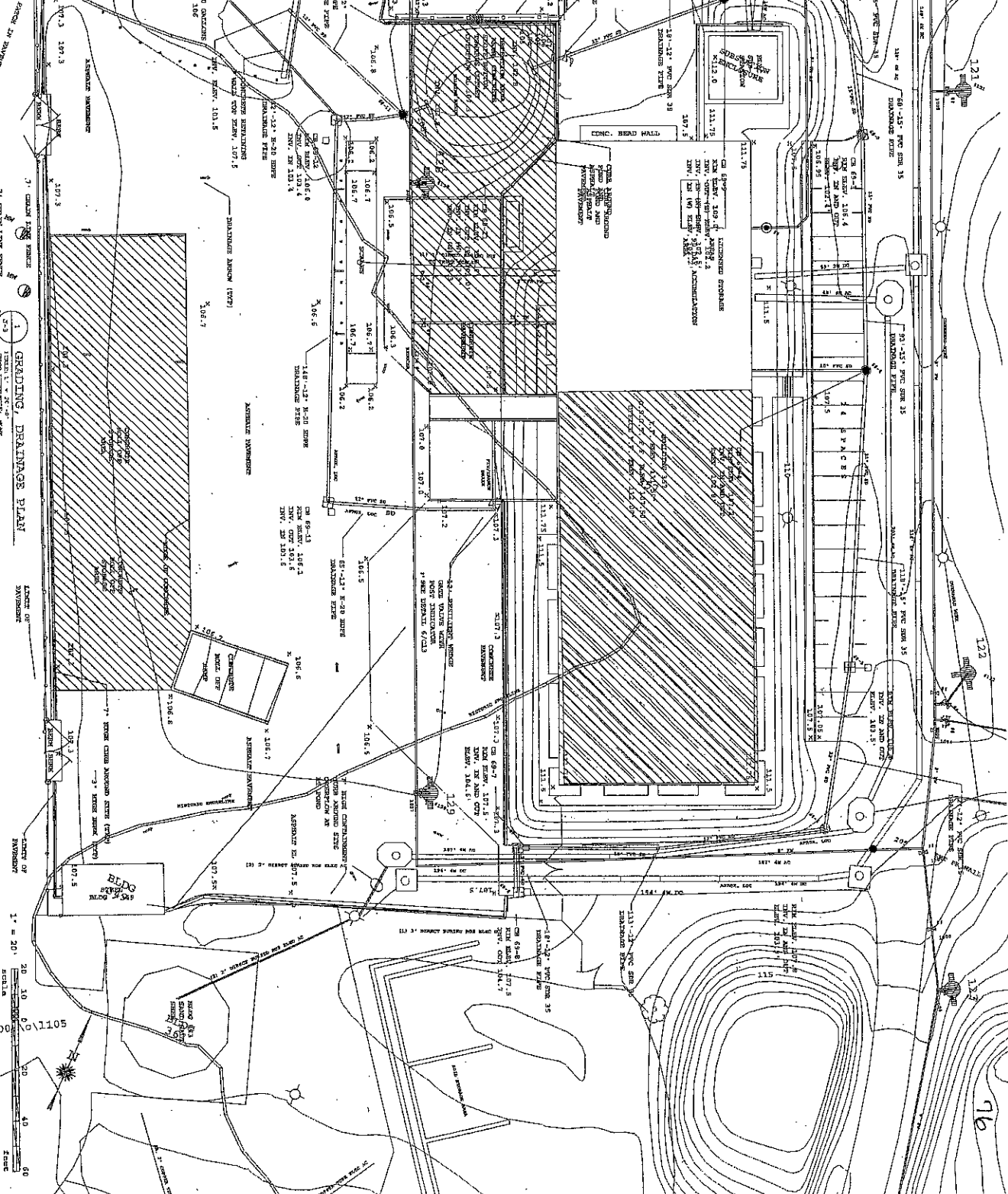


Figure 3

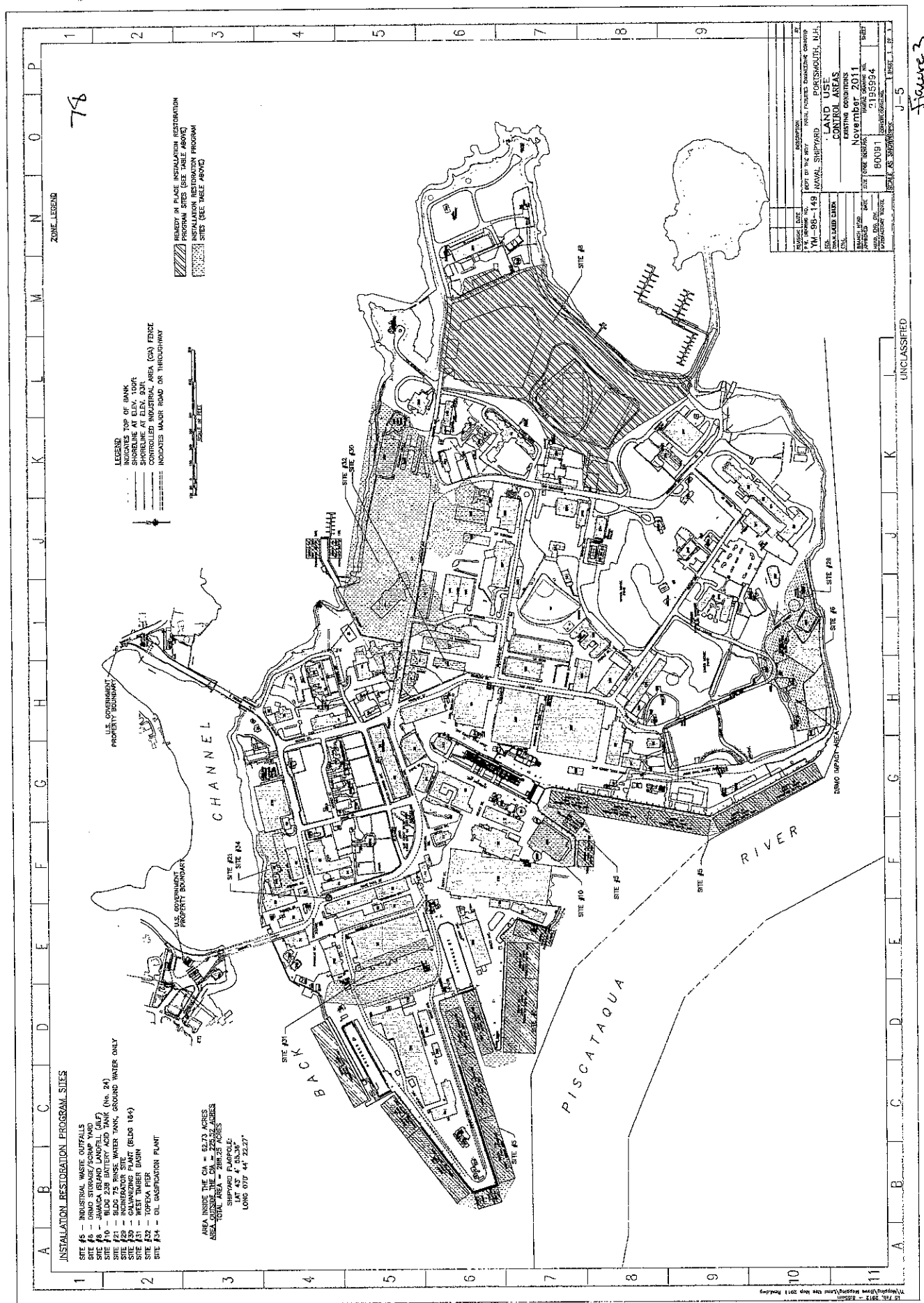


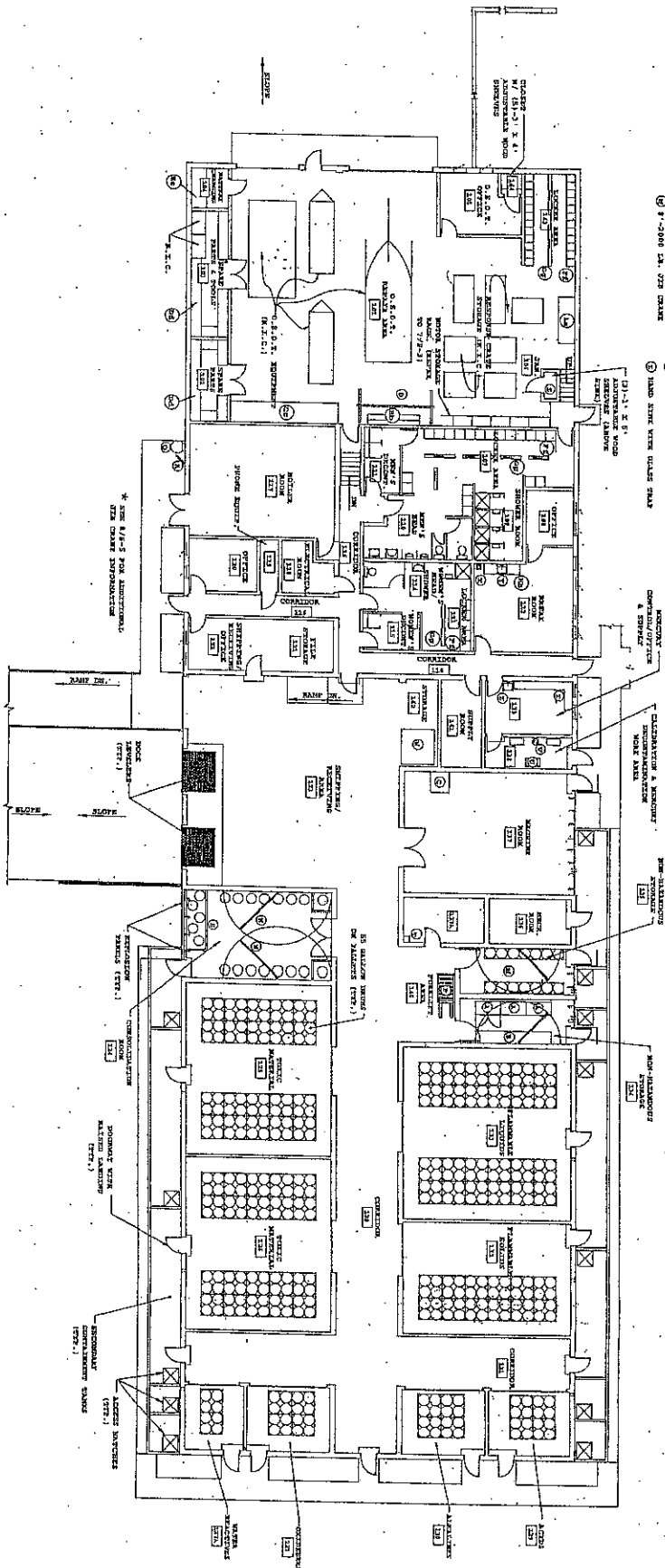
Figure 4

EQUIPMENT LIST

- ① SHIELD GAS CUTTING MACHINE
- ② 11'-2010 IN. ITS CASE
- ③ FUEL FILL GAS CUTTING MACHINE
- ④ 11'-2010 IN. ITS CASE
- ⑤ 1.75 TON LIFTING "T" FORKSTACK TRUCK (CATERPILLAR)
- ⑥ 2.5 TON LIFTING "T" FORKSTACK TRUCK (CATERPILLAR)
- ⑦ 2.5 TON LIFTING "T" FORKSTACK TRUCK (CATERPILLAR)
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GENERAL NOTES

1. TYPICAL ROOM SIZES ARE GIVEN FOR CLARITY.



GENERAL ARRANGEMENT

1. TYPICAL ROOM SIZES ARE GIVEN FOR CLARITY.



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Figure 6

Attachment 1

TABLE A.2: General List of Hazardous Wastes Stored at the Hazardous Waste Storage Facility at Portsmouth Naval Shipyard

WASTE DESCRIPTION	EPA WASTE CODES	HAZARDOUS WASTE CHARACTERISTIC	CONTAINER STORAGE ROOM OR LOCATION	MAXIMUM QUANTITY STORED***		
				POUNDS	VOLUME (GALLONS)	VOLUME (55 GALLON DRUMS)
Bulk Solids With RCRA Metals	D004-11	Toxic	Roll-off Pad	500,000	*	*
Acids	D002, D004-11	Corrosive, Toxic	Rm 129 - Acids	16,000	1,760 Gal	32
Alkalines	D002, D004-11	Corrosive, Toxic	Rm 130 - Alkalines	16,000	1,760 Gal	32
Flammable Liquids	F001-5, D001, D004-43	Ignitable, Toxic	Rm 133 - Flammable Liquids	48,000	5,280 Gal	96
Flammable Solids	D001	Ignitable	Rm 132 - Flammable Solids	48,000	5,280 Gal	96
Oxidizers	U160, D001, D003-11	Ignitable, Toxic, Reactive	Rm 127 - Oxidizers	16,000	1,760 Gal	32
PCB Wastes	None	Toxicity	Rm 125/126 - Toxic Materials	16,000**	***	32**
Reactive Cyanides and Sulfides	D003	Reactive		4,000**	440 Gal**	8**
Toxicity Characteristic Leaching Procedure (TCLP) Wastes	D004-43	Toxic		80,000/Rm	8,800 Gal/Rm	160/Rm
Universal Wastes	N/A	Toxicity	Rm 127A - Water Reactives		N/A	N/A
Water Reactives	D001, D003-11	Reactive/Toxic/Oxidizer		8,000	880 Gal	16
Compressed Gas Cylinders	D002	Ignitable		8,900	N/A	N/A
Evaluated, Solid Non-Regulated Wastes	N/A	N/A	Rm 135	7,000	N/A	14

* The facility has the capacity to store a maximum of 7 (40 cubic yard capacity) hazardous waste roll-off containers in the outdoor portion (~ 1,800 lb/yd).

** Not a cumulative maximum. Storage capacity maximum is that of TCLP Wastes.

*** The Shipyard was designated 'PCB Free' January, 1999. Liquid PCBs are not accumulated or stored.

G-2

October 1, 2001

Attachment 1

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Attachment 2

STANDARD OPERATING PROCEDURE FOR CHANGING WASTES STORED IN A STORAGE CELL

1. Purpose: The Purpose of this instruction is to provide a consistent procedure for evaluating and implementing a change in the allocation of the various storage rooms at the Hazardous Waste Storage Facility, Building 357.
2. Scope: This procedure applies to the reallocation of storage cells and related changes at the Hazardous Waste Storage Facility, Building 357.
3. The Hazardous Waste Storage facility has 13 separate rooms used for waste handling and storage. Each of these rooms has been equipped with specific engineered systems designed to safely accommodate waste in full compliance with all applicable regulations.

3.1 Dedicated storage rooms. Of the 13 waste handling rooms, 5 are unique in terms of their functions and their physical controls. They are therefore not readily interchangeable. These are:

<u>Room Number</u>	<u>Use</u>
124	Consolidation
127A	Water Reactive Storage
134	Gas Cylinder Storage
135	Solid Hazardous Waste
137	Machine Room/Supply Storage

The particular waste stream stored in room 135 can vary, provided the waste is physically solid and not water reactive. When switching waste streams stored in room 135, the procedures below will be used.

3.2 Interchangeable Rooms. Seven of the waste handling rooms feature the same physical controls including 24 hour leak detection and fire detection monitoring, continuous negative pressure ventilation, ventilation, AFFF fire suppression, epoxy coated floors and secondary containments, HDPE liner, explosion proof wiring and others as described in sections VI and VII of the license application. These equivalent rooms are as follows:

<u>Room Number</u>	<u>Current Proposed Use</u>
125	Toxic Waste Storage
126	Toxic Waste Storage
127	Oxidizer Waste Storage
129	Acid Waste Storage
130	Alkaline Waste Storage
132	Flammable Solid Waste Storage
133	Flammable Liquids

The individual rooms differ from each other in size. The original sizing of the various rooms was based on the volume of the wastes projected to be stored in that room at the time the design was completed. However, over time the relative volume of each type of waste will change and it becomes necessary to reallocate one or more storage cells.

4. Determination and Approval:

4.1 When relative waste volumes change such that a storage cells is no longer provides adequate capacity to support the waste it is designated to store, the facility manager must determine the capacity required to store the new volume of that waste.

4.2 The facility manager shall then review each of the other storage cells to assess the utilization level and capacity required in each case.

4.3 Based on the above, the facility manager shall determine the changes necessary to achieve a best-fit reallocation of the storage cells. Preference is given to the simplest solution (i.e. switching two rooms)

4.3.1 If the reallocation involves ONLY the 7 equivalent rooms listed above, the manager shall notify the DEP and proceed with the reallocation as described in section 5.

4.3.2 If the reallocation would involve the reallocation of any other room or a change in the operating procedure of the facility, the proposed change must undergo an engineering review. The purpose of the engineering review is to determine if the physical controls under the proposed reallocation are safe, appropriate, and fully compliant with all regulatory requirements.

4.3.3 After engineering review and approval, the proposed change together with justification, must be submitted to the DEP for approval, prior to implementation.

5. For each room in the approved reallocation proceed as follows using the attached check-list :

5.1 Remove all wastes from the storage cell.

5.2 Inspect to confirm that the room and secondary containment are both free of all spills and spill residues.

5.3 Change the room sign to reflect its new use.

5.4 Update all records and procedures to reflect the new use.

5.5 Brief all facility staff on the new use and any related changes.

5.6 Provide a copy of the revised allocation to the Fire Department and Code 106.31 for inclusion in the contingency plan.

5.7 Place waste in the storage room in accordance with the new allocation.

6. The facility manager will review the implemented reallocation to confirm that it has achieved the desired results and to assess whether any further changes are required.

Attachment 3

**PORTSMOUTH
NAVAL SHIPYARD

HAZARDOUS WASTE
STORAGE FACILITY

OPERATIONS PLAN

APPENDIX H**

APPENDIX H - OPERATIONS PLAN

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2. Hours of Operations H-1

3. Wastes Stored H-1

4. Equipment and Procedures..... H-2

5. Waste Handling Operations H-4

6. Shipping Waste Off-Site..... H-11

7. Inspections and Maintenance H-12

8. Record Keeping H-12

9. Anticipated Environmental Impacts..... H-13

10. Table H.1.....Attached

APPENDIX H EXECUTIVE SUMMARY

Section IV, Item 21 of the application requires the applicant to provide a copy of an operations plan. As required by Chapter 856 10B(10), the plan, which follows, provides a description of how hazardous waste is handled at the HWSF, projected volumes of waste to be handled, hours of operation, inspection and monitoring as well as an evaluation of potential impacts created by the HWSF.

1. **GENERAL.** The Portsmouth Naval Shipyard is a United States Department of Navy facility whose primary mission is the maintenance, repair, and overhaul of Navy ships. Hazardous wastes generated through production activities are consolidated and stored in the Hazardous Waste Storage Facility (HWSF) on-site, prior to shipment off-site for processing or disposal. Hazardous waste generated at off-site locations is transported to the Shipyard, also for storage prior to shipment off-site for processing or disposal. No hazardous wastes are disposed on-site and all are stored in containers. The Hazardous Waste Operations Plan is devised with systematic in-process inspections and checks to ensure first time compliance and minimize the necessity of after-the-fact inspections.

2. **HOURS OF OPERATION.** The normal operating hours for the HWSF are 5:30 AM to 3:30 PM, Monday through Thursday. Waste shipping and receiving will normally be scheduled to occur between 7:00 AM and 3:00 PM. The waste generator is required to notify the facility operator to arrange for pickup of the waste at the generating point. The facility gate is closed and locked when trained facility staff members are not on site. At least one operator is on duty on all working days during the listed hours with support from the Shipyard Environmental Division, as required. In the event of illness or other unexpected absence of the operator, other individuals with the same credentials and training are available to replace the operator.

3. **WASTES STORED.** The types and quantities of wastes to be received on an annual basis are shown in the attached table. This Table provides a description of the wastes and weekly quantities handled. It should be noted that these quantities vary, month to month and year to year, due to changes in production output and operations. The Shipyard strives to minimize the amounts of wastes stored in the facility at any particular time.

3.1 The attached table is organized by "Profile Number." The Shipyard has devised a profile numbering system to organize the information that is available and required on each of the various profiles. The information on waste characterization, U.S. Department of Transportation (DOT) shipping requirements, and Land Disposal Restriction (LDR) information is all filed and tracked by these numbers. The first digit of the Profile number describes the primary characteristic of the waste. Series 2000 codes are flammable; 3000 codes are corrosives; 4000 codes are toxics; 7000 codes are reactives. Series 8000 codes are state regulated, and 9000 codes are controlled by the Shipyard, but not regulated as hazardous wastes. The remaining three digits in codes are assigned as new profiles are defined. Profile numbers are set up such that they consist of wastes which are compatible and that have similar characterizations, treatment standards and shipping requirements.

3.2 Storage: The maximum storage capacity of the facility will be 659 55-gallon drums of waste. Equivalent volumes of waste may be stored in compatible DOT containers other than 55-gallon drums as appropriate.

3.3 Consolidation Room Storage: Up to 21 drums of waste may be handled at the facility in the consolidation room at any one time.

3.4 Bulk Storage: A number of solid wastes are also handled at the facility. Additionally, bulk solid hazardous wastes are handled in roll-offs in the support area. The wastes handled at the roll-off pad include asbestos, boiler soot, oil-contaminated soils, among others. The roll-off pad will accommodate 12 full-size, 40 yard roll-offs. A maximum of seven of these will be used for storage of hazardous waste. Typically, however, only one roll-off of hazardous waste is handled at any one time.

3.5 Transportable Chemical Tanks (TCTs): The facility manages nine 1,000 gallon portable chemical tanks known as TCTs. These tanks meet the EPA definition of a container per 40 CFR 260.10. The tanks are double walled stainless steel tanks and have been pressure tested before being put into service. The tanks are stored outside in the support area and normally kept empty at the HWSF. They are available for production shops' use to handle aqueous wastes that may exhibit the toxicity characteristic and/or corrosivity characteristic. The work assignments are at various locations about the Shipyard. Typically they are used for boat system flushes. System flushes circulate an activated solution through a piping system on board the submarine, then a neutralizing solution, and finally a rinsing solution. The circulated solutions evacuate to the TCT - the waste container. All three flush cycles are aqueous. A typical flush generates less than 1000 gallons of waste, which includes all three flush cycles. When the flush is complete, a contracted hauler pumps the tank on-site and the empty tank will be returned to available inventory at the HWSF. A TCT used for storage of waste on-site at the HWSF would be an event which would require our contact with MEDEP.

3.6 Transportable Oil Tanks (TOTs): The facility manages 1,000 gallon portable oil tanks known as TOTs. These tanks meet the EPA definition of a container. Similar to TCTs, TOTs are stored outside in the support area, kept empty at the HWSF, and are available for production shops' use for temporary storage of oily (primarily aqueous) wastes. The work assignments are at various locations about the Shipyard. The oily waste stored in the TOTs does not exceed waste oil specifications per 40 CFR 279.

4. EQUIPMENT AND PROCEDURES FOR MINIMIZING OPERATIONAL HAZARDS

4.1 Prevention of Hazards in Loading, Unloading and Transfer Operations

4.1.1 The ramp next to the loading dock area has a less than a 10 percent slope enabling forklifts to safely access the facility to unload wastes. Guardrails are located on either side of the ramp and on either side of the loading dock. The loading dock is constructed with adjustable dock boards (dock levelers) so there is a smooth transition from the floor to the trucks for the forklifts during loading and unloading of wastes and to minimize the possibility of spills caused by jarring the forklift. Bumpers and bollards are provided in the loading dock area to prevent the trucks from impacting the building and causing structural damage and potential spills of hazardous wastes. A battery operated EE rated forklift is used for loading and unloading of hazardous wastes. Incompatible wastes are not simultaneously handled (i.e., on a pallet).

4.1.2 During transfer of hazardous wastes in the Consolidation Room, and Machine Rooms, general ventilation is provided to prevent accumulation of explosive gases, vapors and air

contaminants. During dispensing of flammables in these rooms the proper bonding and grounding is used to prevent explosive hazards.

4.1.3 The HWSF is equipped to handle any anticipated spills in accordance with the contingency plan.

4.2. Mitigation of the Effects of Equipment Failures and Power Outages

4.2.1 Electrical service to the HWSF is provided by an electrical substation with a 750 KV transformer. There are two primary feeds to the substation; in the event one line is damaged, power can still be supplied by the other.

4.2.2 In case of a power outage emergency lighting is provided and backup battery power is provided for the fire alarm system. The fire suppression system is a water and foam (Aqueous Film Forming Foam (AFFF)) system except in room 127A, which has a carbon dioxide system. If there is a power outage the water fire suppression system will still operate; the carbon dioxide system in Room 127A is supplied with backup battery power so that it too will still operate.

4.2.3 The equipment in the Machine Rooms is not operated continuously so that a power outage or equipment failure will not be critical.

4.2.4 During power outages, all waste handling operations are suspended and all containers are closed.

4.3 Minimization of Personnel Exposure

4.3.1 Ventilation is provided where dispensing of flammable liquids is performed in Consolidation Room to prevent buildup of explosive gases and hazardous atmospheres, and in the container storage rooms and other work areas so that personnel are not exposed to air containments above OSHA limits (29 CFR Part 1910.1000).

4.3.2 Personnel wear personnel protective equipment such as long sleeve clothing, and eye protection during dispensing and transfer operations to prevent coming into contact with hazardous wastes as outlined in the facility's "Occupational Safety and Health Manual," Shipyard Instruction 5100.82. Though not required, air purifying respirators are provided for use at the workers option.

4.4 Minimization of releases to the atmosphere. Hazardous wastes are handled in closed containers compliant with US DOT standards and 40 CFR 264, Subpart CC. Specifically, wastes with a significant VOC content are stored in closed vapor tight containers. The only time any containers are opened is for short periods of time when waste is transferred from one container to another, when waste is being sampled and when it is being inspected. During any given time during the operations of the HWSF facility no more than a couple of containers would be open. The total air emissions from waste handling at the HWSF have been evaluated and found to be below all applicable regulatory thresholds.

4.5 Leak Detection System

4.5.1 Each waste handling area in building 357 is equipped with leak detection. Free liquids in the Hazardous Waste Consolidation and Storage Rooms will flow to a floor trench with a drain to that specific room's outside secondary containment tank. A liquid leak sensor cable is located in the trench to detect any leaks/flow of liquids into the trench and, therefore, the secondary containment tank. The sensor cable may detect a liquid instantaneously to 60 minutes depending on the content and quantity of the liquid that leaked/spilled. A zoned annunciator is located adjacent to the fire alarm panel at the main entrance into the building. It is tied into the Shipyard's central fire alarm system and will display that there is a leak/spill and its specific location. The annunciator is equipped with a continuity fault indicator. If there is a break anywhere in the sensing cable, an alarm will sound.

4.5.2 Any residual spilled product in the floor trench will be removed and the surface wiped clean.

4.5.3 When a leak is detected, the spilled liquid present in the secondary spill containment tank(s) will be pumped out as soon as is practical/possible and the tank cleaned. The liquid will be removed via a 2.5 by 3 foot access man-way located in the top-end of the tank.

5. WASTE HANDLING OPERATIONS.

5.1. Container Management Practices.

5.1.1 Waste Generation:

Shipyard Waste: Wastes generated in the production shops at the Shipyard are collected in new or reconditioned containers. All hazardous waste accumulation and/or storage containers used on the Shipyard are issued from the HWSF. However, some wastes can be packed in the original container in which they were received. This most often occurs with expired shelf life wastes. The selection of containers is based on the volume, characteristics and intended disposition of wastes to be placed in the container. For example, corrosives require the use of a plastic or lined steel drum.

Commercial Waste: The HWSF receives waste from off-site subject to the following limits:

- 1) The total volume of wastes received from off-site is limited to not more than 2.3 million pounds received annually.
- 2) Shipments received are limited to 2 per week or 104 per year.
- 3) Customers are limited to DoD Facilities in New England.

Commercial site generators (CSG) must characterize their hazardous waste according to 40 CFR 261 and applicable state requirements.

The CSG must provide the HWSF with the characterization information and any supporting documentation necessary to confirm the characterization (e.g., MSDS, generating process, analytical results, etc.). This information is used to tentatively assign the waste to a Shipyard profile. Upon arrival the HWSF confirms the generator provided characterization information and assigned profile number. The Profile Number will be used to track generation, characterization and handling of the waste. The CSG must notify the HWSF of any changes that alter the characterization information so that waste management practices can be adjusted if necessary. The HWSF may request a sample of waste to confirm characterization information.

The CSG must ensure that their waste meets EPA and DOT specifications prior to shipment to the HWSF.

5.1.2 Preparation for Pickup: Each shop or CSG must mark each container using markings that conform to the requirements of 40 CFR 262.34 and 06-096 CMR Chapter 851.

5.1.3 Request for Pickup: Each shop or CSG must initiate a pickup request for each waste shipped to the HWSF each time it is shipped. This request identifies the generating shop or CSG, the material in the container (profile number), the type of container (which indicates quantity), and the process in which it was generated.

The pickup request is formalized by the HWSF into a Pickup Request Sheet, which contains pertinent waste data and outlines some attributes for in-process inspections. The Inspection Plan (Appendix C) provides more detail on in-process inspections.

5.1.4 Traffic Considerations:

Hazardous waste shipments are scheduled so they do not arrive from CSG's during peak traffic hours (3PM to 4PM) using the preferred route to Gate 1. The truck route from I-95 is to Route 236 to the Kittery traffic circle. The Primary Access Route from the Kittery traffic circle is to US Hwy 1 south, to Walker Road (Route 103 east) to Shipyard Gate 1. Trucks must use Gate 1 unless that Shipyard entrance is temporarily closed (i.e., due to construction). The Alternate Route (only to be used when the Primary Route is unavailable) from the Kittery traffic circle is to Whipple Road (Route 236/103 east) to Shipyard Gate 2.

All shipments, regardless of arrival times, will be received and unloaded by the Shipyard. No shipment of hazardous waste will be left parked outside the Shipyard overnight.

5.1.5 Container Pickup:

Shipyard Waste: The HWSF coordinates with the requester and dispatches a truck to pick up the waste. A trained HWSF Handler operates the truck at all times. Containers without proper documentation (e.g. Pickup Request Form, etc.), proper container markings or proper packaging will not be accepted for transport to the storage facility, nor will they be accepted at the storage facility.

Commercial Waste: The HWSF coordinates with the CSG and prepares the required shipping papers (e.g. Manifests, LDR notifications, Emergency Response information, etc).

The HWSF dispatches a truck to pick up the waste. A trained driver with a current Commercial Driver's License (CDL) is required for offsite pickups. The driver may be a Shipyard employee or commercially contracted hauler. Although most loads will be destined for the HWSF, there are times when it is advantageous to ship directly from the CSG to a privately owned TSDF.

Upon arrival at the CSG, the driver will inspect and inventory the containers to ensure the load matches the shipping paper information. The driver and the CSG will resolve any discrepancies prior to loading. The driver will reject any waste or containers that:

- 1) cannot be made to meet EPA regulations.
- 2) cannot be made to meet DOT regulations for safe transport.
- 3) are not properly characterized (e.g. no Profile Number).
- 4) are explosive Hazard Class 1.
- 5) are compressed gas cylinders Hazard Class 2 and 6.1.
- 6) are radioactive Hazard Class 7.

Shipyard and/or CSG personnel will load the truck. The driver is responsible to ensure the load is adequately secured for safe transport. Truck closures shall be secured, fastened and/or locked to contain the load. Once loaded, the waste will not be removed until it reaches the HWSF or other permitted TSDF (except for emergency situations). The driver will properly placard the truck.

Upon completion of loading and required documentation, the driver will proceed directly to the next stop. This may include stops for additional pick ups, meals, rest breaks, motels, weigh stations, etc. that may be necessary for safely transporting the load to the HWSF or other permitted TSDF. Documentation will be within the driver's reach at all times during truck operation.

5.1.6 Container Receipt and Processing:

Shipyard Waste: On arrival at the facility, the containers are off-loaded from the truck at the Shipping and Receiving Area of the HWSF using a forklift or other suitable means. Drums are generally handled using a drum carrying attachment or lifted in groups secured to a pallet.

The containers are checked on arrival to ensure that they are properly marked and that they are free from rust, leaks, bulges or other defects.

The containers are weighed, and segregated according to the information on the container markings and the storage layout (shown in Appendix J). Small or partially full containers go to the Consolidation Room for consolidation. Only compatible wastes are consolidated in the same collection container.

Occasionally, unidentified or uncharacterized wastes may be encountered and transferred to the storage facility from within the Shipyard. These wastes will be characterized according to the procedures established in the Waste Analysis Plan. Until they are characterized, these wastes will be segregated from all other stored materials.

Commercial Waste: On arrival at the HWSF, the truck closures will be opened and the contents will be inspected for obvious signs of leakage and spills.

The containers are off-loaded from the truck at the Shipping and Receiving Area of the HWSF using a forklift or other suitable means. Drums are generally handled using a drum carrying attachment or are lifted in groups secured to a pallet.

The waste will be screened according to the Waste Analysis Plan, Chapter 7. Screening the waste involves verification of the stated physical and chemical properties to ensure the waste meets regulatory requirements and is treatable. The steps involved in screening are:

- 1) Documentation Review and Container Condition.
- 2) Open and Inspect.
- 3) Field Testing/Screening.
- 4) Laboratory Testing.

The HWSF will determine which of the above steps are appropriate to reasonably assure that the waste meets its stated characterization information. At a minimum, the following Documentation Review and Container Condition steps will be performed on incoming waste.

Step 1) Documentation Review and Container Condition involves a review of all associated documentation that communicate the identity and hazards of the received waste and an inspection of the external container. The containers are inspected to ensure that they are properly marked and that they are free from rust, leaks, bulges or other defects. The containers are inspected and inventoried to ensure the load matches the shipping paper information.

Step 2) Open and Inspect involves a visual inspection of the waste for obvious non-conformance with documentation. This may include, but is not limited to, a check of general appearance, and features of the waste (e.g. petroleum-like, paint-like, aqueous, solid, etc.)

Step 3) Field Testing/Screening involves rapid qualitative and quantitative tests to confirm stated characteristics of the waste. Selection of testing is dependent on the results of the Documentation review and the Open and Inspect phases. These may include, but are not limited to, Ignitability (Flashpoint), Corrosivity (pH), various metals (totals), PCBs, Cyanide and Sulfide content, Total Halogens, and VOC Emissions.

Step 4) Laboratory Testing provides a higher level of testing than Field Testing/Screening. Selection of the testing is dependent on the nature of the waste and level of confirmation needed based on the results of the Documentation review, the

Open and Inspect and/or Field Testing/Screening phases. These may include but are not limited to Ignitability (Flashpoint), Corrosivity (pH), Cyanide and Sulfide content, Heat Content, TCLP Metals, TCLP Volatiles, TCLP Semi-Volatiles, TCLP Pesticides/PCBs/Herbicides, Total Organic Carbon, Total Organic Halogens, Total Suspended Solids, Total VOCs, Total Metals, Total Halogens, VOC Content in Waste, PCBs, Petroleum Contaminant/Fingerprint.

If a waste does not pass requisite screening steps, the HWSF may reject it. Rejection may involve, but is not limited to, returning the waste to the CSG, repackaging or remarking the drum to bring it into compliance, and adjusting the characterization information to meet applicable regulation after consulting with the CSG.

Containers that successfully clear receipt inspection are then weighed and segregated according to the information on the container markings and the storage room allocation. Small or partially full containers will be sent to the Consolidation Room for consolidation. Wastes are only consolidated with wastes that are compatible.

5.1.7 Container Movement: Containers are moved about the facility using an "EE" rated electric forklift or other suitable means. Incompatible wastes are not simultaneously handled (i.e., on a pallet).

5.1.8 Container Storage: All waste containers are stored on wooden or plastic pallets to prevent contact with leaked or spilled liquids. Drums are stacked as high as seven feet (two drums), if necessary, excluding flammable liquid drums. Aisle space of at least three feet is maintained for inspection and fire fighting operations. All containers are closed when waste is not being placed in or removed from the container.

The current storage room allocation layout is provided in Appendix J. Procedures for changing the allocation of storage rooms are provided in Appendix 5.1.8.

5.1.9 Container Inspection: The Storage Area and containers are inspected daily as established in the Inspection Plan. Containers which are observed to be deteriorating or actually leaking will be immediately transferred to an empty container that is in good condition and compatible with the waste. Any leaks, spills, or other problems found in the storage facility will be immediately corrected according to Inspection Plan requirements (Appendix C).

5.1.10 Container Specifications: Containers meeting DOT specifications are used to store wastes at the HWSF. Containers of wastes which are small DOT containers, or do not conform to DOT standards, are also stored at the facility prior to consolidation. Wastes in these containers are transferred to DOT containers or into overpack drums before shipment for off-site disposal. Only new or reconditioned containers are used to store wastes which have been removed from original containers. Large, non-drummed waste containers are used to accumulate waste (e.g. TCTs, TOTs, asbestos dumpsters, etc.), prior to transferring it to a contractor supplied DOT bulk unit for transportation offsite.

The primary means for meeting Container Level 1 and 2 standards for air emissions (per 40 CFR 264 Subpart CC) is by use of containers that meet DOT packaging standards. For roll-offs, TCTs and TOTs the HWSF uses covers and closure devices that are secured in the closed position such that there are no visible holes, gaps or other open spaces into the interior of the container.

5.1.11 Off-spec Containers: Containers are removed from use and destroyed if they exceed their design life expectancy, leak, rust or otherwise deteriorate. Drums that are in good condition and meet DOT standards but have become empty as a result of consolidation are sent off-yard for reconditioning by a private contractor. During reconditioning the drums are cleaned, painted and inspected. Gaskets, bungs and other parts are replaced as necessary to ensure the containers continue to meet DOT standards. The reconditioned drums are returned to the Shipyard for reuse.

5.1.12 Container Tracking and Shipment: All containers are tracked on a central computer system. This system tracks and identifies containers that are approaching 180 days. When a container reaches 180 days of storage, an exception report is filled with the DEP. The 180+ containers are segregated from other containers with the storage cells so that they will stand out during daily inspections. These containers are shipped at the earliest possible date. In all cases, they are shipped before 360 days lapse.

5.2 Other Activities:

Certain other activities occur at the Shipyard's existing HWSF. These activities are not believed to require a permit under the State's hazardous waste management rules. The activities include: waste compacting, empty container management and universal waste management per 40 CFR 273 and 06-096 CMR Chapter 850.

5.2.1 Waste Compacting

Waste compacting is an activity that involves the handling of a hazardous waste. The primary waste stream that is handled in this operation is solvent-contaminated rags. The sole purpose of this operation is volume reduction. Both before and after volume reduction these wastes are managed as hazardous waste in accordance with DEP rules. The waste is handled as follows:

- a) Full containers of rags are brought to the HWSF and stored prior to volume reduction.
- b) Prior to shipment for off-site disposal, the containers of rags are consolidated in a drum compactor. The first drum is opened and placed in the compactor. A hydraulic ram then compacts the rags down into the drum. Rags from additional containers are placed in the drum and the waste is compacted. This process is repeated until the drum is full. Upon becoming full, the drum is resealed and managed in accordance with the hazardous waste management rules. All drums are kept closed when waste is not being added or removed.

It is believed that this activity is not required to be licensed as provided by 06-096 CMR Chapter 856 6(E). The rag compaction operation occurs in the Machine Room of the HWSF.

5.2.2 Empty Containers:

The Shipyard handles a large number of empty containers. These are generated by the production areas through the use of materials, by the accumulation areas through the consolidation of wastes, and by the storage facility through waste consolidation and volume reduction. The HWSF will receive this waste from both Shipyard and commercial sources. These containers are:

- a) Emptied at the point of generation in accordance with 06-096 CMR Chapter 850 3A(7).
- b) Collected in covered containers.
- c) Brought to the HWSF.
- d) Each empty container is checked for compliance with 06-096 CMR Chapter 850 3A(7).
- e) The empty metal containers are crushed and shipped off-site for recycling.
- f) The empty plastic containers are shipped off-site for disposal.

This activity is exempt from hazardous waste regulation under 06-096 CMR Chapter 850 3A(7).

5.3 Surface Water Protection

5.3.1 Any precipitation falling on the loading dock area will be collected by the containment system, which has drain valves that are normally closed during loading operations. If no spills have occurred, the valves are opened and any collected precipitation is allowed to drain to the facility's containment pond. This pond is also equipped with a drainage valve. This valve is normally closed. Operating procedures call for opening of the drains to release collected precipitation from the pond only if a visual inspection of the immediate area and review of inspection logs reveal no evidence of leaked or spilled wastes.

NOTE: If precipitation is collected prior to cleanup of the leaks or spills, then the collected precipitation will be sampled and tested for the presence of hazardous waste according to the procedures in the Waste Analysis Plan. If found to be contaminated; the liquid will be pumped into containers for proper disposal. If the collected precipitation is found to be uncontaminated, the drains will be opened and the precipitation released.

5.3.2 Precipitation in the form of snow is removed from the loading dock area. Melted snow is handled in the same fashion as collected rain. Disposal of precipitation is not of concern inside the storage building.

5.3.3 Spilled or leaked wastes in the outdoor area or in the building will be pumped into drums for disposal. Small spills or leaks or residues from large spills will be cleaned up

with neutralizing agents and sorbent material, as appropriate. The sorbent material will be collected in drums for proper disposal. The affected floor or pad area will be rinsed down and the rinsate collected. The wash water will be tested for hazardous characteristics and sent for proper disposal in accordance with the results.

6. SHIPPING WASTE OFFSITE.

6.1 All hazardous waste is shipped on hazardous waste manifests of the State in which the receiving Treatment, Storage or Disposal Facility (TSDF) is located. If the State of the TSDF does not have its own manifests then the State of Maine HW manifest is used.

6.2 An Emergency Response Information sheet is sent with each shipment. This provides additional information on response to spills of the material shipped and appropriate points of contact.

6.3 With the initial shipment of the waste to each treatment or storage facility, the Shipyard will send a one-time written Land Disposal Restriction notice and certification to the receiving facility and keep a copy on file. These forms inform the receiving facility of the applicable treatment standards and whether or not the waste meets those standards or requires treatment to meet them. The forms shall meet the generator paperwork requirements of 40 CFR 268.7. No further notification is required until such time that the waste changes or the receiving facility changes.

6.4 Each Container is marked and labeled in accordance with DOT and DEP requirements. The markings applied to each container consist of at least the following information:

- (1) The statement, "HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the Maine Department of Environmental Protection (1-800-482-0777) or the nearest office of the United States Environmental Protection Agency."
- (2) Generator information including "Portsmouth Naval Shipyard Seavey Island Kittery, Maine 03804," the Shipyard's EPA identification number and emergency Point of Contact.
- (3) DOT proper shipping name.
- (4) Technical (Chemical) name of hazardous waste (if N.O.S. is part of DOT proper shipping name) -
- (5) "RQ" if applicable.
- (6) UN/NA number.
- (7) DOT label.
- (8) Emergency response guide number.

7. INSPECTIONS AND MAINTENANCE.

7.1 The facility and its equipment are inspected on a regular schedule. A summary of inspection parameters is provided in Appendix C. Corrective actions are taken to address any deficiencies identified. For example, the chemically resistant floor coatings applied in each of the storage

rooms are inspected as part of the regular daily inspections. If these coatings are found to be worn, cracked, chipped or peeled, they will be repaired.

7.2 In addition to correcting problems as they arise, equipment shall be given preventative maintenance in accordance with the manufacturer's specifications.

7.3 Preventive maintenance is essential to the integrity of pavements. To be effective, treatments must be applied to pavements in good condition.

7.3.1 The roll-off pad is inspected on a daily basis, checking for cracks and gouging. Where recoating is required, a penetrating sodium silicate sealer shall be applied on the following schedule:

- Gouges are to be recoated as soon after they occur as possible.
- The entire pad is to be recoated every five years.

7.3.2 The outdoor storage area asphalt shall be monitored. Seal coating shall be applied to new asphalt after it has been allowed to cure 6 to 12 months. Properly applied, seal coating should last 3 to 5 years. The condition of the asphalt and the seal coating will be monitored as a part of daily inspections. As soon as indications of wear are apparent, the surface will be scheduled for seal coating. Signs of wear include:

- For new asphalt, when erosion of the top layer causes fine cracks on the asphalt surface and when larger stones in the asphalt are more pronounced, it is time to seal coat.
- For seal coated asphalt: Seal coat is a coating. When the coating actually begins to wear away in places and the asphalt is visible, it is time to reseal.

7.4 Facility Liner Inspection.

7.4.1 On a quarterly basis, the observation ports over the facilities' geomembrane liner, will be opened and inspected for the presence of accumulated moisture. If a liquid volume is observed in any of the observation ports the following actions shall be undertaken.

7.4.1.1 Record the observation port number, and measure the liquid level in the port.

7.4.1.2 Pump the water from each port that contains a liquid volume into waste drums. Record the observation port number and the approximate volume pumped from each port.

7.4.1.3 Maintain records of the quarterly inspection and data collected.

7.4.2 The waste liquid will be assigned Profile number 9049, Groundwater, and will be characterized for disposal. The characterization will consist of determining the liquid's corrosivity and potential, though not expected, toxicity in accordance with PTSMHINST 5090.8.

8. RECORD KEEPING.

8.1 A large number of records are kept on facility operations. These include the appropriate copies of Hazardous Waste Shipping Manifests, LDR notifications and certifications, operating logs, inspection reports, analytical results and basis for "not in light service" of non-DOT containers larger than 0.46 m³ determination. Originals of these reports are maintained on-site for a period of not less than five years.

8.2 After five years these records may be scanned and the originals sent the National Archives in Waltham, MA. The National Archives will keep the records for a period of 25 years. A copy of the microfilmed records will be maintained at the HWSF until closure.

8.3 Training records will be kept for three years after an employee no longer works at the facility or until closure, whichever comes first.

9. ANTICIPATED ENVIRONMENTAL IMPACTS.

9.1 No adverse impact on the environment due to the storage of hazardous wastes at the facility is anticipated. The facility stores a relatively small quantity of material (average anticipated storage 500 drums) and all containers are kept tightly closed during storage to prevent any volatilization of potentially harmful materials.

9.2 The only possible problem with environmental consequences would be a large scale spill or leak of materials. Under normal conditions the maximum expected spill would be a leak or failure of a single 55-gallon drum. The spill containment system provides adequate containment for the 20 percent of the total stored volume in the event of some catastrophic incident that caused failure of all stored containers. The possibility of this event occurring is infinitesimal because it would require all storage rooms to fail simultaneously, all rooms to be storing only liquids, and all individual containers to fail before emergency response actions take place. Further, the containment system and the required liner effectively prevents any releases to soil or the river. Volatilization of leaked or spilled materials is not considered to pose a threat because of the rapid dilution by normal winds typical of a marine coastal setting.

9.3 An analysis of air impacts from this facility was performed as part of the construction design (CT Male, 1993). This analysis demonstrated that normal operations of the HWSF would have no significant air impact. The total organic emissions associated with the HWSF were approximately 1.5 lbs. per hour or 12 lbs. per day. The overwhelming majority of these emissions were associated with the solvent recovery and aerosol can puncturing processes.

Note: This license application does not include solvent recovery and aerosol can-puncturing processes. The solvent recovery operation has been eliminated. The aerosol can puncturer/crusher operation was never brought on line and has been eliminated.

The calculated emission for the HWSF as configured under this license application and without those terminated operations is under 0.1 lbs. per hour or 0.8 lbs. per day, largely resulting from consolidation. This is well below all applicable regulatory thresholds.

STANDARD OPERATING PROCEDURE FOR CHANGING WASTES STORED IN A STORAGE CELL

1. Purpose: The Purpose of this instruction is to provide a consistent procedure for evaluating and implementing a change in the allocation of the various storage rooms at the Hazardous Waste Storage Facility, Building 357.
2. Scope: This procedure applies to the reallocation of storage cells and related changes at the Hazardous Waste Storage Facility, Building 357.
3. The Hazardous Waste Storage facility has 13 separate rooms used for waste handling and storage. Each of these rooms has been equipped with specific engineered systems designed to safely accommodate waste in full compliance with all applicable regulations.

3.1 Dedicated storage rooms. Of the 13 waste handling rooms, 5 are unique in terms of their functions and their physical controls. They are therefore not readily interchangeable. These are:

<u>Room Number</u>	<u>Use</u>
124	Consolidation
127A	Water Reactive Storage
134	Gas Cylinder Storage
135	Solid Hazardous Waste
137	Machine Room/Supply Storage

The particular waste stream stored in room 135 can vary, provided the waste is physically solid and not water reactive. When switching waste streams stored in room 135, the procedures below will be used.

3.2 Interchangeable Rooms. Seven of the waste handling rooms feature the same physical controls including 24 hour leak detection and fire detection monitoring, continuous negative pressure ventilation, ventilation, AFFF fire suppression, epoxy coated floors and secondary containments, HDPE liner, explosion proof wiring and others as described in sections VI and VII of the license application. These equivalent rooms are as follows:

<u>Room Number</u>	<u>Current Proposed Use</u>
125	Toxic Waste Storage
126	Toxic Waste Storage
127	Oxidizer Waste Storage
129	Acid Waste Storage
130	Alkaline Waste Storage
132	Flammable Solid Waste Storage
133	Flammable Liquids

The individual rooms differ from each other in size. The original sizing of the various rooms was based on the volume of the wastes projected to be stored in that room at the time the design was completed. However, over time the relative volume of each type of waste will change and it becomes necessary to reallocate one or more storage cells.

4. Determination and Approval:

4.1 When relative waste volumes change such that a storage cells is no longer provides adequate capacity to support the waste it is designated to store, the facility manager must determine the capacity required to store the new volume of that waste.

4.2 The facility manager shall then review each of the other storage cells to assess the utilization level and capacity required in each case.

4.3 Based on the above, the facility manager shall determine the changes necessary to achieve a best-fit reallocation of the storage cells. Preference is given to the simplest solution (i.e. switching two rooms)

4.3.1 If the reallocation involves ONLY the 7 equivalent rooms listed above, the manager shall notify the DEP and proceed with the reallocation as described in section 5.

4.3.2 If the reallocation would involve the reallocation of any other room or a change in the operating procedure of the facility, the proposed change must undergo an engineering review. The purpose of the engineering review is to determine if the physical controls under the proposed reallocation are safe, appropriate, and fully compliant with all regulatory requirements.

4.3.3 After engineering review and approval, the proposed change together with justification, must be submitted to the DEP for approval, prior to implementation.

5. For each room in the approved reallocation proceed as follows using the attached check-list :

5.1 Remove all wastes from the storage cell.

5.2 Inspect to confirm that the room and secondary containment are both free of all spills and spill residues.

5.3 Change the room sign to reflect its new use.

5.4 Update all records and procedures to reflect the new use.

5.5 Brief all facility staff on the new use and any related changes.

5.6 Provide a copy of the revised allocation to the Fire Department and Code 106.31 for inclusion in the contingency plan.

- 5.7 Place waste in the storage room in accordance with the new allocation.
6. The facility manager will review the implemented reallocation to confirm that it has achieved the desired results and to assess whether any further changes are required.

STORAGE ROOM REALLOCATION CHECK OFF

Attribute		Yes/No																		
1.	Reallocation involves only rooms <table border="1"> <thead> <tr> <th>Room Number</th><th>Current Proposed Use</th></tr> </thead> <tbody> <tr><td>125</td><td>Toxic Waste Storage</td></tr> <tr><td>126</td><td>Toxic Waste Storage</td></tr> <tr><td>127</td><td>Oxidizer Waste Storage</td></tr> <tr><td>129</td><td>Acid Waste Storage</td></tr> <tr><td>130</td><td>Alkaline Waste Storage</td></tr> <tr><td>132</td><td>Flammable Solid Waste Storage</td></tr> <tr><td>133</td><td>Flammable Liquids</td></tr> <tr><td>135</td><td>Solid Hazardous Wastes</td></tr> </tbody> </table>	Room Number	Current Proposed Use	125	Toxic Waste Storage	126	Toxic Waste Storage	127	Oxidizer Waste Storage	129	Acid Waste Storage	130	Alkaline Waste Storage	132	Flammable Solid Waste Storage	133	Flammable Liquids	135	Solid Hazardous Wastes	
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133	Flammable Liquids																			
135	Solid Hazardous Wastes																			
2.	If any other room is involved in the reallocation, have the required approvals been obtained?																			
3.	All wastes have been removed from the storage cell.																			
4.	The storage room and secondary containment are free of all spills and spill residues.																			
5.	Room signs have been changed to reflect the new use.																			
6.	Records and procedures have been updated to reflect the new use.																			
7.	All facility staff has been briefed on the new use and any related changes.																			
8.	A copy of the revised allocation has been provided to the Fire Department and Code 106.31 for inclusion in the contingency plan.																			

Facility Manager Approval

Signature_____
Date

APPENDIX H.1

IMPACT FROM AIR EMISSIONS

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ATTACHMENT: AIR EMISSION CALCULATIONS

A. INTRODUCTION

This document presents the air emission calculations for the hazardous waste storage facility. Specifically it includes calculations of the emissions associated with such sources as the mercury calibration and decontamination work area, the consolidation room and the oil fired boilers to be located within facility. See the facility layout included in Appendix J for the location of emission points.

B. SOURCES OF DATA

(1) In 1993 C.T. Male Associates, P.C. performed an analysis of the air emissions from the HWSF as part of the design and licensing process for the facility. That analysis has been revised here to reflect actual operating conditions and changes proposed as part of this permit application. The following data was used as part of this analysis:

- (a) Process and equipment descriptions, operating schedules, analytical data on waste composition, and airborne concentrations of mercury during worst case decontamination operations were obtained from PNS documents.
- (b) Emission factors for various pieces of equipment were provided by the manufacturer
- (c) Emission factors for the boilers were drawn from AP-42, Compilation of Air Pollutant Emission Factors, Fourth Edition, US EPA, September 1985.

C. PROCESS DESCRIPTION

(1) Solvent Recovery: This operation has been eliminated.

(2) Mercury Calibration and Decontamination Work Area:

(a) The Mercury Calibration and Decontamination Work Area consists of 102 square feet of floor space. Operations in this area are performed in accordance with NAVSEA DRAFT INSTRUCTION 5100.3C, Control of Mercury and Mercury Compounds. Activities performed by mercury control personnel include responding to mercury spills and decontaminating mercury contaminated objects. Spills are cleaned-up using a high efficiency particulate absolute (HEPA) filtered vacuum equipped with an activated charcoal filter. Objects that are contaminated with mercury are double wrapped with polyethylene sheeting at the spill site after removal of gross contamination with the HEPA vacuum. The contaminated objects are returned to the Mercury Calibration and Decontamination Work Area for decontamination. Several decontamination techniques are employed including utilization of a sulfide solution to absorb residual mercury. Waste sulfide solutions are consolidated in a 55 gallon drum with waste silver solutions and stored in the toxics container storage area of the hazardous waste storage facility. The Shipyard estimates that mercury control personnel respond to 100 spills per year and that it takes

an average of two hours to decontaminate the objects contaminated with mercury.

(b) Calibration of analytical instruments containing mercury is also be conducted in the Mercury Calibration and Decontamination Work Area. A total of five such instruments are calibrated four times per year. Calibration of each instrument requires approximately four hours.

(c) Continuous general ventilation for the work area is provided at a rate of 250 cfm. The mercury workbench has a backdraft work table with a ventilation rate of 600 cfm. Flex duct connection for local exhaust ventilation at a rate of 340 cfm is also provided. Exhaust air from the Mercury Calibration and Decontamination Work Area is drawn through a filter train which includes a pre-filter, HEPA filters and activated carbon filters to remove airborne mercury vapors.

(3) Consolidation Room:(a) This area will receive as many as 300,000 small containers per year. These containers may contain toxics, oxidizers, acids, alkalines and flammables. The contents of these small containers are consolidated into 55 gallon drums by facility personnel in the Consolidation Room. Small containers of wastes are transferred to the appropriate drums via a funnel, except that most small containers of flammables are transferred via open top drums within a maximum 1.5 hour period per day. General ventilation at a design minimum rate of 520 cfm (low speed) and maximum rate of 780 cfm (high speed) is provided to this area.

(4) Aerosol Can Puncturer/Crusher: This operation was never brought on line and has been eliminated.

(5) Boilers: Three boilers provide heat and hot water for the facility. A boiler for summer operation have an input of 1.2 million BTUs/hour. Two boilers for winter operation (one unit is a backup) have an input of 1.8 MBtu/hour. The boilers burn No. 2 fuel oil and will consume a total of approximately 40,000 gallons of fuel per year.

D. FINDINGS OF AIR EMISSION CALCULATIONS

(1) Mercury Calibration and Decontamination Work Area: Based on peak air concentrations as measured by PNS and utilizing the maximum design ventilation rate (1190 cfm) and assuming 24 hours of operation per day for 365 days per year the maximum emission rate of mercury from the mercury control area was calculated to be 0.00015 lbs/hr or 0.01164 lbs/day. See attached calculations. This emission source would presently be exempt from MEDEP licensing requirements pursuant to MEDEP - Bureau of Air Quality Regulations (06-096 CMR Chapter 115 C) since 0.00015 lbs./hr. is below the regulatory limit of 0.02 lbs./hr. Control equipment on the exhaust from the work area should also not be required by MEDEP. However, it is required by NAVSEA Draft Instruction 5100.3C. Therefore, the exhaust air will be drawn through a filter train which will include a pre-filter, HEPA filters, and activated carbon filters to remove airborne mercury vapors down to 0.01 mg/m³.

(2) Consolidation Room: Based on utilization of emission rates, the operational data and the design ventilation rate for the solvent recovery unit, the maximum emission rate for VOCs, determined by utilizing methyl ethyl ketone as the waste solvent, was calculated to be 0.0625 lbs per hour (lbs/hr) or 0.5 lbs/day. See attached calculations. Consequently, this emission source would presently be exempt from the DEP licensing requirements pursuant to DEP - Bureau of Air Quality Regulations (06-096 CMR Chapter 115 C) since 0.0625 lbs/hr is below the regulatory limit of 10 lbs/hr.

(3) Boilers: Due to the size of the boilers (i.e. maximum 1.8 MBtu/hr) the air emissions are essentially negligible (see attached calculations). The boilers are presently exempt from DEP licensing requirements pursuant to DEP - Bureau of Air Quality Regulations (06-096 CMR Chapter 115 C) since the boilers are less than 10 MBtu/hr which is the size which would trigger licensing.

ATTACHMENT: AIR EMISSION CALCULATIONS

A.1 Solvent Recovery Unit (This operation has been eliminated)

A.2 Mercury Calibration and Decontamination Work Area

Mercury Emissions Without Control Equipment

$$\text{MAX ERP} = \frac{(2 \text{ mg/m}^3)(1190 \text{ cf/min})(8760 \text{ hrs/yr})}{(454,000 \text{ mg/lb})(35.31 \text{ m}^3/\text{ft}^3)} = 1.30 \text{ lbs/yr}$$

$$\text{lbs/hr} = 0.000148 \text{ lbs/hr}$$

Mercury Emissions With Control Equipment

$$\text{MAX ERP} = \frac{(0.01 \text{ mg/m}^3)(1190 \text{ cf/min})(8760 \text{ hrs/yr})}{(454,000 \text{ mg/lb})(35.31 \text{ m}^3/\text{ft}^3)}$$

$$= 0.0065 \text{ lbs/year}$$

$$\text{lbs/hr} = 7.4 \times 10^{-7} \text{ lbs/hr}$$

A.3 CONSOLIDATION ROOM

VOC emissions (based on MEK)/unit

$$(a)(b)(c)(d)(0.000048) = \text{lbs/day (see attached data from FTI)}$$

$$a = \text{MW} = 72$$

$$b = \text{VP @ Product temp.} = 2.6 \text{ psia}$$

$$c = \text{Batches/day} = 1$$

$$d = \text{Gallons/batch} = 55 \text{ gal}$$

$$\text{ER} = (72)(2.6)(1)(55)(0.000048) = 0.4942 \text{ lbs/day}$$

$$= 0.5 \text{ lbs/day}$$

$$\text{ER} = 0.0625 \text{ lbs/hr} \times 2 \text{ units} = 0.125 \text{ lbs/hr}$$

ATTACHMENT: AIR EMISSION CALCULATIONS
(Continued - Page 2)

A.4 Aerosol Can Puncturer/Crusher (This operation was never used and has been eliminated)

A.5 BOILERS

EF x amount of fuel = lbs/yr

Particulate (lbs/yr) = (10 lbs/1000 gal fuel)(8500 gal per year)
= 85 lbs/yr

SO₂ (lbs/yr) = (142 (s)/1000 gal)(8500 gal per year)
S = 10% which is estimated sulfur content
= 120.7 lbs/yr

SO₃ (lbs/yr) = (2 (s)/1000 gal)(8500) = 1.7 lbs/yr

CO (lbs/yr) = (5 lbs/1000 gal)(8500) = 42.5 lbs/yr

VOC (lbs/yr) - (3 lbs/1000 gal)(8500) = 25.5 lbs/yr

NO_x (lbs/yr) - (12 lbs/1000 gal)(8500) = 102 lbs/yr

Aldehydes = (2 lbs/1000 gal)(8500) = 17.0 lbs/yr

Attachment 4

Department of Defense Facilities
In
New England

Attachment 4

<i>Bloomfield</i>	Naval Weapons Industrial Reserve Plant (Multiple Sites)
<i>Branford</i>	Connecticut National Guard Armory
<i>Bristol</i>	Connecticut National Guard Armory
<i>Danbury</i>	US Army Reserve Center
<i>East Granby</i>	Connecticut Air National Guard Base (Multiple Sites)
<i>East Lyme</i>	Connecticut National Guard Unit Training Equipment Site Naval Undersea Warfare Center
<i>Fairfield</i>	US Army Reserve Center
<i>Groton</i>	Connecticut Air National Guard Depot (Multiple Sites) Naval Submarine Base, New London (Multiple Sites)
<i>Hartford</i>	Connecticut National Guard Armory
<i>Manchester</i>	Connecticut National Guard Armory
<i>Middletown</i>	Army Maintenance Support Activity Connecticut National Guard Armory US Army Reserve Center US Army Reserve Organizational Maintenance Support Activity
<i>Milford</i>	US Army Reserve Organizational Maintenance Support Activity
<i>Naugatuck</i>	Connecticut National Guard Armory
<i>New Britain</i>	Connecticut National Guard Armory
<i>New Haven</i>	Connecticut Air National Guard Connecticut National Guard Armory Marine Forces Reserves

Connecticut

New Haven

US Army Reserve Center

US Army Reserve Organizational Maintenance
Support Activity*New London*

Connecticut National Guard Armory

Naval Undersea Warfare Center, Combat Systems
Operations (Multiple Sites)
US Coast Guard Academy*Newington*

Connecticut National Guard Armory

US Army Reserve Center

*Newtown*Armed Forces Reserve Center & Maintenance
Facility

Connecticut National Guard Armory

Connecticut National Guard Base

Niantac

Connecticut National Guard Base

Norwalk

Connecticut National Guard Armory

US Army Reserve Organizational Maintenance
Support Activity*Norwich*US Army Reserve Organizational Maintenance
Support Activity*Orange*

Connecticut Air National Guard Station

Plainville

Marine Forces Reserves

Putnam

Connecticut National Guard Armory

*Southington*US Army Reserve Organizational Maintenance
Support Activity*Stratford*

Stratford Army Engine Plant

US Army Reserve Organizational Maintenance
Support Activity*Waterbury*

US Army Reserve Center

West Hartford

US Army Reserve Center

Windsor Locks

Air Combat Command

Connecticut*Windsor Locks (continued)*

Connecticut National Guard, Combined Support
Maintenance Shop
US Army Reserve Area Maintenance Support
Activity

Maine*Auburn*

Maine National Guard, Unit Training Equipment
Site
US Army Reserve Center

Augusta

Maine National Guard Armory
Maine National Guard, Camp Keyes (Multiple Sites)

Bangor

Armed Forces Reserve Center
Army Aviation Support Facility (Multiple Sites)
Maine Air National Guard
Maine National Guard, Organizational
Maintenance Support Facility
Naval Reserve Center

Bath

US Dept of the Navy, Supervisor of Shipbuilding

Belfast

Maine National Guard
US Coast Guard, Marine Safety Office

Boothbay Harbor

US Coast Guard Station

Brewer

Maine National Guard

Brunswick

Armed Forces Reserve Center
Naval Air Station

Calais

Maine National Guard

Caribou

Maine National Guard Armory
Maine National Guard, Organizational
Maintenance Support

Eastport

US Coast Guard Station

Fort Kent

Maine National Guard



<i>Gardiner</i>	Maine National Guard Maine National Guard Armory
<i>Houlton</i>	Maine National Guard
<i>Jonesport</i>	US Coast Guard Station
<i>Lewiston</i>	Maine National Guard Maine National Guard Armory
<i>Limestone</i>	Defense Finance & Accounting Service
<i>Norway</i>	Maine National Guard
<i>Portland</i>	Maine National Guard Maine National Guard Armory US Dept of the Navy, Supervisor of Shipbuilding
<i>Presque Isle</i>	Maine National Guard
<i>Prospect Harbor</i>	Naval Satellite Operations Center
<i>Rockland</i>	US Coast Guard Station
<i>Saco</i>	Maine National Guard US Army Reserve Center
<i>Sanford</i>	Maine National Guard
<i>Scarborough</i>	US Army Reserve Center
<i>Skowhegan</i>	Maine National Guard
<i>South Portland</i>	Maine Air National Guard US Coast Guard Station US Coast Guard, Airspace & Navigation Team

Maine*Southwest Harbor*

US Coast Guard Station

US Coast Guard, Airspace & Navigation Team

Topsham

Marine Forces Reserves

Waterville

Maine National Guard

Westbrook

Maine National Guard

Maine National Guard Armory

Massachusetts*Agawam*

Armed Forces Reserve Center

Ayer

Armed Forces Reserve Center

Devens Reserve Forces Training Center (Multiple Sites)

US Army Reserve Equipment Concentration Site

Barnstable Cnty

Massachusetts Military Reservation (Multiple Sites)

Bedford

Hanscom AFB (Multiple Sites)

Boston

Massachusetts National Guard Armory

US Army Reserve Center

US Coast Guard, Airspace & Navigation Team

US Coast Guard, Integrated Support Command

Bourne

Massachusetts National Guard Armory

Brockton

Massachusetts National Guard Armory

US Army Area Main Support Activity

Cape Cod

US Air Force Station

US Coast Guard Station

US Coast Guard, Air Station

Charlestown

Naval Historical Center

Massachusetts

Chicopee

Joint Air Reserve Base, Westover (Multiple Sites)

Marine Forces Reserves

US Army Reserve Center

Devers

Marine Forces Reserves

US Army Reserve Center

Gloucester

US Coast Guard Station

Hudson

Soldier Systems Center Housing

Hyannis

Massachusetts National Guard Armory

Melrose

Massachusetts National Guard Armory

Merrimack

US Coast Guard Station

Middleboro

Massachusetts National Guard Armory

Milford

Massachusetts Air National Guard

Natick

Soldier Systems Center (Multiple Sites)

New Bedford

Massachusetts National Guard Armory

US Coast Guard, Marine Safety Office

Plymouth

Massachusetts National Guard Armory

Point Allerton

US Coast Guard Station

Quincy

Naval Reserve Center

Reading

Massachusetts National Guard Armory

Scituate

US Coast Guard Station

Springfield

US Army Reserve Center

Massachusetts*Watertown*

US Army Materials Technology Laboratory

Webster

Massachusetts National Guard Armory

Wellesley

Massachusetts Air National Guard

Westfield

Massachusetts Air National Guard

Massachusetts Air National Guard Base

Massachusetts National Guard Armory

Westover

US Army Reserve Center

Whitman

Massachusetts National Guard Armory

Woods Hole

US Coast Guard Group

Worcester

Marine Forces Reserves

Massachusetts Air National Guard

Massachusetts National Guard Armory

US Army Reserve Center

New Hampshire*Berlin*

New Hampshire National Guard Armory

Center Strafford

New Hampshire National Guard Training Site

Claremont

New Hampshire National Guard Armory

Concord

New Hampshire National Guard

Dover

New Hampshire National Guard Armory

Franklin

New Hampshire National Guard Armory

Hanover

US Army Cold Region Research Lab

Hillsborough

New Hampshire National Guard Armory

New Hampshire*Keene*

New Hampshire National Guard Armory

Lebanon

New Hampshire National Guard Armory

Littleton

New Hampshire National Guard Armory

Londonderry

Naval & Marine Corps Reserve Center

Manchester

Armed Forces Reserve Center

New Hampshire National Guard Armory

US Army Reserve Center

Milford

New Hampshire National Guard Armory

Mount Vernon

New Boston AFS

Nashua

New Hampshire National Guard Armory

New Castle

US Coast Guard Station

Pease International

Armed Forces Reserve Center

New Hampshire Air National Guard

Portsmouth

New Hampshire National Guard Armory

US Army Reserve Center

Rochester

New Hampshire National Guard Armory

US Army Reserve Center

Somersworth

New Hampshire National Guard Armory

Rhode Island*Bristol*

Rhode Island National Guard

US Army Reserve Center

Coventry

Rhode Island Air National Guard

Rhode Island

<i>Cranston</i>	Rhode Island National Guard
<i>Davisville</i>	Davisville Army Reserve Family Housing
<i>East Greenwich</i>	Rhode Island National Guard US Army Reserve Organizational Maintenance Support Activity
<i>Kingstown</i>	US Dept of the Navy, Supervisor of Shipbuilding
<i>Middletown</i>	Rhode Island National Guard
<i>Narragansett</i>	Rhode Island National Guard
<i>Newport</i>	Naval Station Newport (Multiple Sites) Naval Undersea Warfare Center (Multiple Sites)
<i>North Kingstown</i>	Quonset Air National Guard Base Rhode Island National Guard
<i>North Smithfield</i>	Rhode Island National Guard
<i>Providence</i>	Naval & Marine Corps Reserve Center Rhode Island National Guard US Army Reserve Center US Coast Guard, Marine Safety Office US Property and Fiscal Office
<i>Slatersville</i>	Rhode Island Air National Guard Station
<i>Smithfield</i>	Rhode Island Air National Guard
<i>Warren</i>	US Army Reserve Organizational Maintenance Support Activity
<i>Warwick</i>	Rhode Island National Guard US Army Reserve Center US Army Reserve Organizational Maintenance Support Activity

Rhode Island

Woonsocket

Rhode Island National Guard

Vermont

Bennington

Vermont National Guard Reserve Center

Berlin

US Army Reserve Center

Bradford

US Army Reserve Center

Burlington

US Coast Guard Station

Vermont Air National Guard Station

Chester

US Army Reserve Organizational Maintenance
Support Activity

Colchester

Army National Guard, Camp Johnson (Multiple
Sites)

US Army Reserve Center

Vermont Air National Guard

Enoston Falls

Vermont National Guard Reserve Center

Fairhaven

Vermont National Guard Reserve Center

Jericho

Vermont National Guard Reserve Center

Ludlow

Vermont National Guard Reserve Center

Lyndonville

US Army Reserve Organizational Maintenance
Support Activity

Morrisville

Vermont National Guard Reserve Center

Newport

Vermont National Guard Reserve Center

North Springfield

Vermont National Guard Reserve Center

Northfield

Vermont National Guard Reserve Center



Rutland	US Army Reserve Area Maintenance Support Activity US Army Reserve Center Vermont National Guard Reserve Center
St. Albans	
Swanton	Vermont National Guard Armory
Vergennes	Vermont National Guard Reserve Center
Waterbury	Vermont National Guard Reserve Center
Westminster	Vermont National Guard Reserve Center
White River Junction	Vermont National Guard Reserve Center
Williston	Armed Forces Reserve Center & Organizational Maintenance Facility Naval Reserve Center
Windsor	Vermont National Guard Reserve Center
Winooski	Vermont National Guard Reserve Center
	Vermont National Guard Reserve Center

Attachment 5

APPENDIX C**SCHEDULES**

- C.1 OU1 SCHEDULE (SITE 10)**
- C.2 OU2 SCHEDULE (SITES 6 and 29)**
- C.3 OU3 SCHEDULE (SITES 8, 9, and 11)**
- C.4 OU4 SCHEDULE (SITE 5 and OFFSHORE AOCs)**
- C.5 OU7 SCHEDULE (SITE 32)**
- C.6 OU8 SCHEDULE (SITE 31)**
- C.7 OU9 SCHEDULE (SITE 34)**
- C.8 SITE 30, FORMER GALVANIZING PLANT BUILDING 184,
SCHEDULE**

APPENDIX C.1
OU1 SCHEDULE (SITE 10)

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT 1 (OU1)
(SITE 10)

[illegible]

APPENDIX C.2
OU2 SCHEDULE (SITES 6 and 29)

Mon 6/13/11
2:14 PM

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT 2 (OU2)
(SITES 6 AND 29)

135

Task Name	Start	Finish	2011	2012	2013
SUPPLEMENTAL RI (RI)	Mon 1/9/06	Tue 5/4/10			
FEASIBILITY STUDY	Sat 3/1/03	Tue 4/5/11			
Prepare Draft and Revised Draft FS	Sat 3/1/03	Mon 11/1/03			
Submit Revised Draft FS Report	Mon 11/1/03	Mon 11/1/03			
USEPA, MEDEP & RAB Review Revised Draft FS Report	Mon 11/1/03	Thu 4/29/10			
Receive Regulator Comments on Revised Draft FS Report	Thu 3/5/09	Fri 4/30/10			
Comment Resolution	Fri 4/30/10	Tue 2/15/11			
Prepare Draft Final FS Report	Tue 2/1/11	Wed 3/2/11			
Submit Draft Final FS Report	Thu 3/3/11	Thu 3/3/11			
USEPA, MEDEP & RAB Review Draft Final FS Report	Thu 3/3/11	Thu 3/10/11			
Receive Regulator Approval, Comments, or Notice of Dispute	Thu 3/10/11	Thu 3/10/11			
Comment Resolution	Thu 3/10/11	Tue 3/29/11			
Prepare Final FS Report	Thu 3/10/11	Mon 4/4/11			
Submit Final FS Report	Tue 4/5/11	Tue 4/5/11			
PROPOSED REMEDIAL ACTION PLAN (PRAP)	Wed 12/8/10	Tue 8/23/11			
Prepare Draft PRAP	Wed 12/8/10	Fri 4/15/11			
Submit Draft PRAP	Mon 4/18/11	Mon 4/18/11			
USEPA, MEDEP & RAB Review Draft PRAP	Mon 4/18/11	Tue 5/17/11			
Receive Regulator Comments on Draft PRAP	Wed 5/18/11	Wed 5/18/11			
Prepare Draft Final PRAP & RTCs	Wed 5/18/11	Mon 6/6/11			
Submit Draft Final PRAP & RTCs	Tue 6/7/11	Tue 6/7/11			
USEPA, MEDEP & RAB Review Draft Final PRAP	Tue 6/7/11	Mon 6/27/11			
Prepare Final PRAP	Tue 6/28/11	Mon 7/18/11			
Submit Final PRAP	Tue 7/19/11	Tue 7/19/11			
Public Comment Period	Mon 7/25/11	Tue 8/23/11			

Mon 6/13/11
2:14 PM

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT 2 (OU2)
(SITES 6 AND 29)

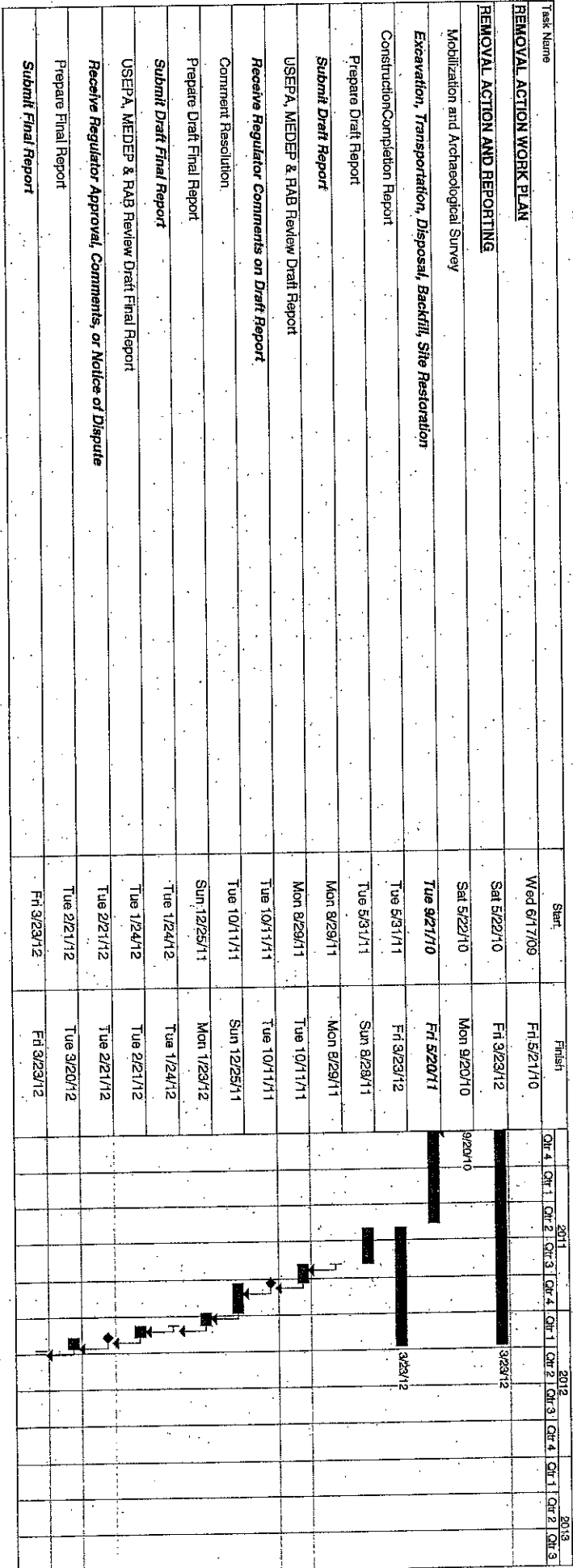
137

Task Name	Start	Finish	2011	2012	2013
RECORD OF DECISION (ROD)					
Prepare Draft ROD	Thu 6/30/11	Fri 1/6/12			
Submit Draft ROD	Thu 9/22/11	Thu 9/22/11			
USEPA, MEDEP & RAB Review Draft ROD	Thu 9/22/11	Fri 10/21/11			
Receive Regulator Comments on Draft ROD	Fri 10/21/11	Fri 10/21/11			
Prepare RITCs & Draft Final ROD	Fri 10/21/11	Thu 11/10/11			
Submit RITCs & Draft Final ROD	Fri 11/11/11	Fri 11/11/11			
USEPA, MEDEP & RAB Review Draft Final ROD	Fri 11/11/11	Thu 12/1/11			
Receive Regulator Comments on Draft Final ROD	Fri 12/2/11	Fri 12/2/11			
MEDEP Subgrants Letter of Concurrence/Non-Concurrence	Fri 12/2/11	Fri 12/2/11			
Prepare Final ROD	Fri 12/2/11	Thu 12/22/11			
Submit Final ROD for signature	Fri 12/23/11	Fri 12/23/11			
USEPA & Navy Sign Final ROD	Fri 12/23/11	Fri 1/6/12			
OU2 PRE-DESIGN INVESTIGATION					
Prepare Draft Work Plan (Includes discussion of Data Quality Objectives with Project Team)	Mon 6/1/09	Fri 6/25/10			
Submit Draft Work Plan	Mon 6/28/10	Mon 6/28/10			
USEPA, MEDEP & RAB Review Draft Work Plan	Mon 6/28/10	Wed 10/13/10			
Receive Regulator Comments on Draft Work Plan	Fri 7/30/10	Wed 10/13/10			
Comment Resolution	Wed 10/13/10	Tue 11/2/10			
Prepare Final Work Plan	Tue 11/2/10	Fri 11/12/10			
Submit Final Work Plan	Mon 11/15/10	Mon 11/15/10			
Fieldwork and Reporting	Thu 4/7/11	Mon 6/6/11			
REMEDIAL DESIGN - 70 days contracting; 230 days RD (RD schedule to be submitted with draft ROD)	Sat 10/29/11	Thu 8/23/12			
REMEDIAL ACTION - 70 days contracting; 320 days RA	Wed 5/16/12	Sun 6/3/13			
REMEDY IN PLACE	Fri 7/26/13	Fri 7/26/13			

Mon 6/13/11
2:14 PM

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT 2 (OU2)
(SITES 6 AND 29)

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APPENDIX C.3
OU3 SCHEDULE (SITES 8, 9, and 11)

Mon 6/13/11
2:25 PM

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT (OU3)
(Sites 8, 9, and 11)

142

Task Name	Start	Finish	2011	2012	2013
OPERATION, MAINTENANCE AND MONITORING PLAN (OM&M Plan)					
Prepare LUC RD (Appendix E of OM&M Plan)	Thu 6/2/05	Wed 10/6/11	█		
Receive Comments on Draft LUC RD	Thu 6/2/05	Thu 6/23/05			
Prepare Revised Draft LUC RD	Mon 4/13/09	Mon 4/13/09			
Submit Responses to Comments on Revised Draft LUC RD	Mon 4/13/09	Mon 4/13/09			
USEPA, MEDER, & RAB Review Revised Draft LUC RD	Tue 4/14/09	Wed 7/15/09			
Receive Comments	Wed 7/15/09	Wed 7/15/09			
Comment Resolution	Thu 7/16/09	Fri 2/5/10			
Prepare Draft Final LUC RD	Fri 2/5/10	Fri 3/6/10			
Submit Draft Final LUC RD	Mon 3/8/10	Mon 3/8/10			
USEPA, MEDER, & RAB Review Draft Final LUC RD	Mon 3/8/10	Tue 11/16/10			
Navy Receives Approval, Comments, or Notice of Dispute	Tue 4/13/10	Tue 11/16/10			
Comment Resolution	Thu 5/20/10	Fri 7/8/11			
Prepare Final LUC RD	Mon 7/11/11	Mon 8/8/11			
Submit Final LUC RD	Mon 8/8/11	Mon 8/8/11			
OM&M Plan Revision 1 (Primary Document)	Fri 6/5/09	Wed 10/5/11	█		
Prepare OM&M Plan Revision 1	Fri 6/5/09	Tue 8/25/09			
Submit Draft Plan	Wed 8/26/09	Wed 8/26/09			
USEPA, MEDER, & RAB Review Draft Plan	Wed 8/26/09	Tue 11/10/09			
Receive Comments	Tue 11/10/09	Tue 11/10/09			
Comment Resolution (Delayed until LUCRD finalized)	Wed 11/11/09	Fri 7/8/11			
Prepare Draft Final Plan	Fri 7/8/11	Fri 8/5/11			
Submit Draft Final Plan	Fri 8/5/11	Fri 8/5/11			
USEPA, MEDER, & RAB Review Draft Final Plan	Fri 8/5/11	Fri 9/2/11			
Receive Regulator Approval, Comments, or Notice of Dispute	Mon 9/5/11	Mon 9/5/11			
Comment Resolution	Mon 9/5/11	Mon 9/12/11			
Prepare Final Plan	Mon 9/5/11	Tue 10/4/11			
Submit Final Plan	Wed 10/5/11	Wed 10/5/11			
FIVE-YEAR REVIEWS	Sat 6/23/12	Sat 6/23/12			
Second Five-Year Review (due 5 years after First Five-Year Review)	Sat 6/23/12	Sat 6/23/12			

Mon 6/19/11
2:26 PM

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT (OU3)
(Sites 8, 9, and 11)

143

Task Name	Start	Finish	2011	2012	2013
OPERATION, MAINTENANCE AND MONITORING PLAN IMPLEMENTATION					
Conduct Ninth Round	Thu 4/8/10	Wed 9/28/11	Qtr 1	Qtr 4	Qtr 1
Five Year Evaluation - Rounds 1 through 9 Data Evaluation Report (Primary Document)	Thu 4/8/10	Tue 10/19/10	Qtr 1	Qtr 2	Qtr 2
Prepare Draft Rounds 1 through 9 Report	Thu 6/24/10	Fri 4/29/11	Qtr 2	Qtr 3	Qtr 3
Submit Draft Rounds 1 through 9 Report	Mon 11/1/10	Mon 11/1/10	Qtr 4	Qtr 1	Qtr 1
USEPA, MEDDP & RAB Review Draft Report	Mon 11/1/10	Tue 1/25/11	Qtr 4	Qtr 1	Qtr 1
Receive Comments	Wed 1/25/11	Wed 1/25/11	Qtr 1	Qtr 2	Qtr 2
Comment Resolution	Wed 1/25/11	Thu 4/7/11	Qtr 1	Qtr 2	Qtr 2
Receive Regulator Approval, Comments, or Notice of Dispute	Thu 4/7/11	Thu 4/7/11	Qtr 2	Qtr 3	Qtr 3
Prepare Final Rounds 1 through 9 Report	Thu 4/7/11	Thu 4/28/11	Qtr 3	Qtr 4	Qtr 4
Submit Final Rounds 1 through 9 Report	Fri 4/29/11	Fri 4/29/11	Qtr 4	Qtr 1	Qtr 1
Conduct Tenth Round	Mon 4/18/11	Wed 9/28/11	Qtr 1	Qtr 4	Qtr 1
Conduct groundwater and gas sampling	Mon 4/18/11	Fri 4/22/11	Qtr 1	Qtr 2	Qtr 2
Conduct routine inspection, maintenance activities	Mon 4/18/11	Fri 4/22/11	Qtr 1	Qtr 2	Qtr 2
Prepare and Submit Draft Data Package	Fri 4/22/11	Fri 7/29/11	Qtr 2	Qtr 3	Qtr 3
USEPA, MEDDP & RAB Review Draft	Fri 7/29/11	Mon 9/29/11	Qtr 3	Qtr 4	Qtr 4
Prepare and Submit Final Data Package	Tue 9/28/11	Wed 9/28/11	Qtr 4	Qtr 1	Qtr 1

APPENDIX C.4
OU4 SCHEDULE (SITE 5 and OFFSHORE AOCs)

[illegible]

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT 4 (OU4)
(SITE 5 AND OFFSHORE AOCS)

(SITE 5 AND OFFSHORE AOCS)

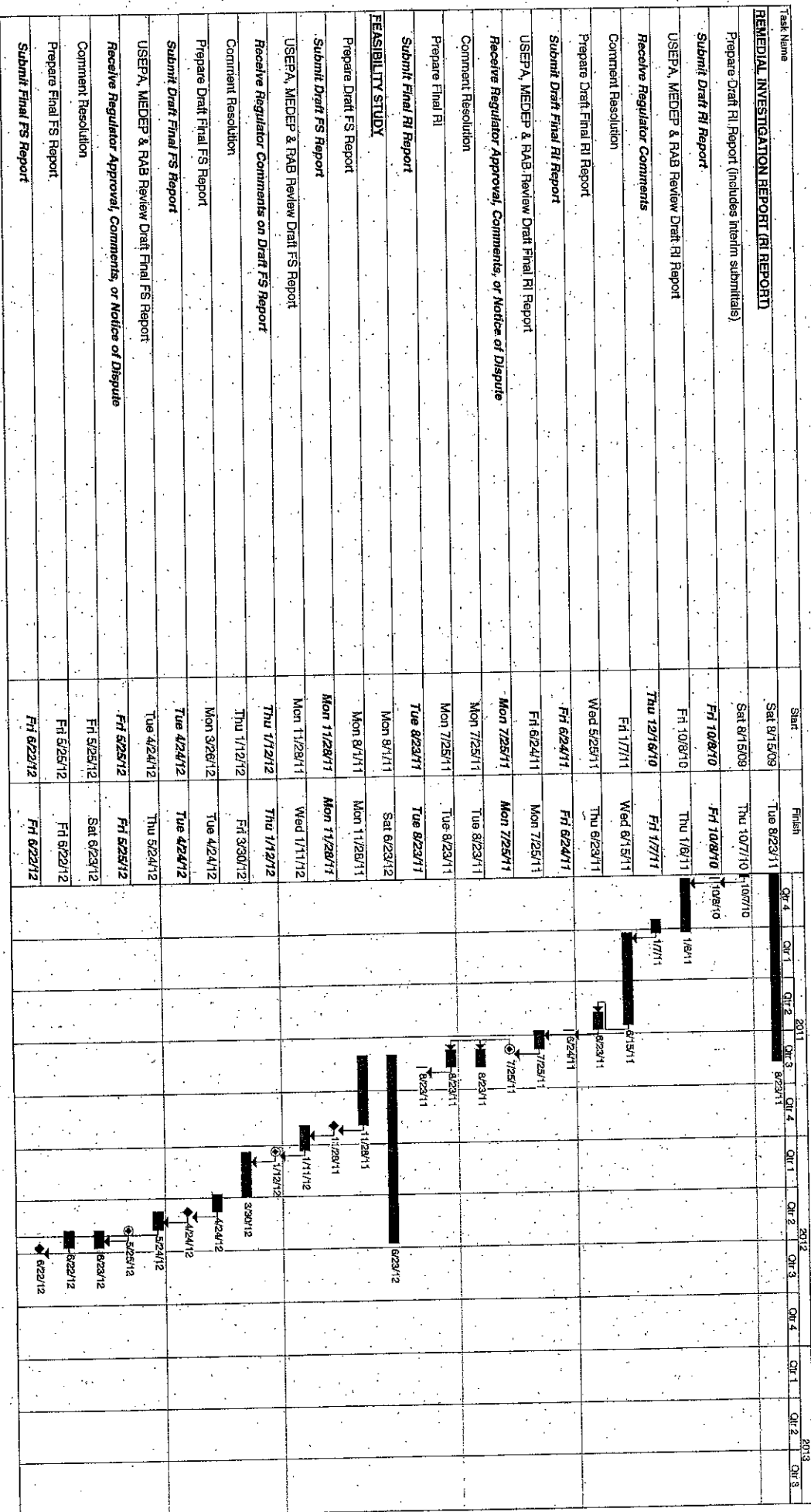
[illegible]

APPENDIX C.5
OU7 SCHEDULE (SITE 32)

Mon 8/13/11
2:55 PM

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT (OU) 7
(SITE 32)

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PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT (OU) 7
(SITE 32)

[illegible]

APPENDIX C.6
OU8 SCHEDULE (SITE 31)

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT 8 (OU8)
(SITE 31)

(SITE 31)

[illegible]

APPENDIX C.7
OU9 SCHEDULE (SITE 34)

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
OPERABLE UNIT (OU) 9
(SITE 34)

[illegible]

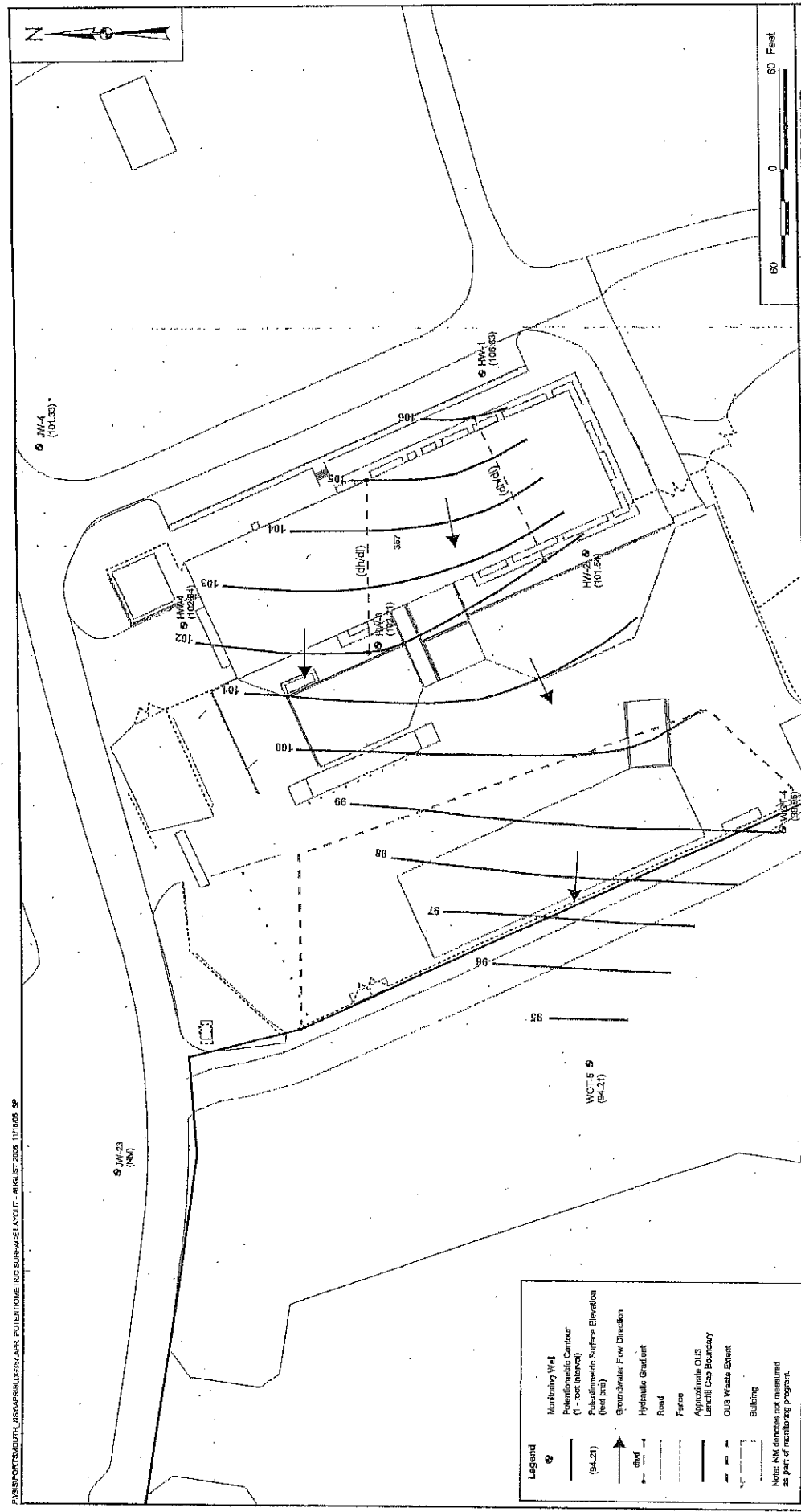
APPENDIX C.8
SITE 30, FORMER GALVANIZING PLANT BUILDING 184, SCHEDULE

Mon 6/13/11
3:24 PM

PORTSMOUTH NAVAL SHIPYARD
SITE MANAGEMENT PLAN SCHEDULE
SITE 30, GALVANIZING PLANT (BUILDING 184)

Task Name	Start	Finish	Qtr 4 - 2010	Qtr 1 - 2011	Qtr 2 - 2011	Qtr 3 - 2011	Qtr 4 - 2011	Qtr 1 - 2012	Qtr 2 - 2012	Qtr 3 - 2012	Qtr 4 - 2012	Qtr 1 - 2013	Qtr 2 - 2013	Qtr 3 - 2013
REVISED EECA REVISION 2	Mon 11/16/09	Thu 12/2/10	12/2/10											
REVISED ACTION MEMORANDUM REVISION 2	Mon 11/16/09	Fri 12/17/10	12/17/10											
REMOVAL ACTION WORK PLAN	Mon 12/20/10	Tue 7/12/11												
Prepare Draft Site 30 Removal Action Work Plan	Mon 12/20/10	Fri 4/15/11												
Submit Draft Work Plan	Mon 4/18/11	Mon 4/18/11												
USEPA, MDEP & F&B Review Draft Work Plan	Mon 4/18/11	Fri 6/3/11												
Receive Regulator Comments on Draft Work Plan	Fri 6/3/11	Fri 6/3/11												
Comment Resolution	Mon 6/6/11	Thu 6/23/11												
Prepare Final Work Plan	Fri 6/24/11	Tue 7/12/11												
Submit Final Work Plan	Tue 7/12/11	Tue 7/12/11												
REMOVAL ACTION (schedule to be provided in Work Plan)	Tue 7/12/11	Fri 1/6/12												
Construction	Tue 7/12/11	Fri 1/6/12												

Attachment 6



PORTSMOUTH, NEW HAMPSHIRE AIR POTENTIOMETRIC SURFACE MAP - AUGUST 2006 11/05/06 SP

Legend

- Horizontal Wall
- Potentiometric Contour (1' - foot interval)
- Potentiometric Surface Elevation (feet msl)
- Groundwater Flow Direction
- Hydraulic Gradient
- Road
- Fence
- Approximate OJ3 Landfill Gas Boundary
- OJ3 Waste Extent
- Building

Note: NM denotes not measured as part of monitoring program.

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES	ISSUED BY	DATE	DATE	CONTRACT NUMBER
							S. BROWN	8/30/06		OTO 0022
							CHECKED BY	DATE	APPROVED BY	DATE
							F. PRASER	8/30/06		
							COST/SCHEDULE AREA		APPROVED BY	DATE
									DRAWING NO.	FIGURE 6
									REV	0

Tetra Tech NUS, Inc.
POTENTIOMETRIC SURFACE CONTOUR MAP
AUGUST 8, 2006 (CURRENT CONDITIONS)
PORTSMOUTH NAVAL SHIPYARD
KITTEERY, ME

Attachment 6

